INSTITUTO FEDERAL DE TELECOMUNICACIONES

"2019, Año del Caudillo del Sur, Emiliano Zapata"

INSTITUTO FEDERAL DE TELECOMUNICACIONES
OFICINA DEL COMISIONADO ARTURO ROBLES ROVALO
Ciudad de México, a 28 de agosto de 2019

PLENO DEL INSTITUTO FEDERAL DE TELECOMUNICACIONES
PRESENTE

En cumplimiento de lo dispuesto en el artículo 15, fracción I del Estatuto Orgánico del Instituto Federal de Telecomunicaciones, presento el Informe de participación en representación del Instituto Federal de Telecomunicaciones (IFT), en el Programa binacional de verano entre estudiantes de México y EUA, "Programa Enlace" organizado por Universidad de San Diego, que tuvo lugar el día 9 de agosto del año en curso en la ciudad de San Diego, California.

El "Programa Enlace" es la iniciativa de la Universidad de San Diego que busca fortalecer los vínculos fronterizos a través de la estancia en la Universidad de San Diego de estudiantes e investigadores mexicanos en las áreas de Ciencias e Ingeniería. La estancia permite el desarrollo de investigaciones que se encuentran en la frontera del conocimiento, como son:

- Identificación de huecos de privacidad en relojes inteligentes y teléfonos inteligentes debido a anuncios BLE.
- Pruebas ópticas del foco de plasma denso.
- Potencia de frenado del haz intenso de protones producido en láser de intensidad alta en pulso corto de interacciones de la materia.
- Fabricación y caracterización de materiales de aislamiento térmico nanoestructurado.
- Nanoestructuras dinámicas de ADN para la administración dirigida de medicamentos contra el cáncer.
- Síntesis de materiales cuánticos modernos.
- Identificar y caracterizar los factores de transcripción implicados en el riesgo genético de diabetes.
- Caracterización y síntesis y de metales nanoporosos.

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- Representando la diversidad individual en los datos de rendimiento cerebral.
- Tabla de movimiento para simular terremotos.
- Nuevos materiales para impresión 3D.
- Materiales avanzados para la eficiencia energética.
- Medición de la estabilidad de las interacciones electrostáticas en biomateriales autoajustados.
- Reconstrucción de objetos del mundo real a gran escala.
- Fabricación de nanocompuestos poliméricos sensibles.

Durante el desarrollo del evento el Comisionado participó como conferencista magistral en representación del Instituto. Adicionalmente se visitaron los laboratorios de prueba, donde se desarrollan investigaciones para mejorar la eficiencia en las tecnologías satelitales para la provisión de banda ancha e Internet.

Se anexa el Programa del evento.

ATENTAMENTE,

ARTURO ROBLES ROVALO
COMISIONADO

ENLACE 2019

Summer Research Experience

CLOSING CEREMONY and SYMPOSIUM

Welcome!

Keynote Speakers:

Dr. Arturo Robles Rovalo
Commissioner, *Instituto Federal de Telecomunicaciones*

Prof. Luciano Castillo
Kenninger Professor of Renewable Energy and Power Systems in Mechanical Engineering, Purdue University

The ENLACE summer research program at UC San Diego aims to encourage the participation of students and researchers in the sciences and engineering, while promoting cross-border friendships.

The program is an opportunity to explore a variety of interests through work on varied projects, while challenging the person to always consider science in the context of societal needs.

CaliBaja Center for Resilient Materials and Systems

Director
Olivia A. Graeve, Ph.D.
Professor, UC San Diego
Department of Mechanical and Aerospace Engineering
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Schedule:

8:00 - 9:00 AM
Registration and Continental Breakfast

9:00 - 9:30 AM
Welcome Speaker
Prof. Luciano Castillo

9:30 - 10:00 AM
CaliBaja Education Consortium
Signing of Collaborative Agreements

10:00 - 10:10 AM
Coffee Break

10:10 AM - 12:00 PM
High School Student Presentations

12:00 - 1:30 PM
Lunch and College Student Poster Presentations

1:30 - 2:00 PM
Keynote Speaker
Dr. Arturo Robles Rovalo

2:00 -4:40 PM
High School Student Presentations

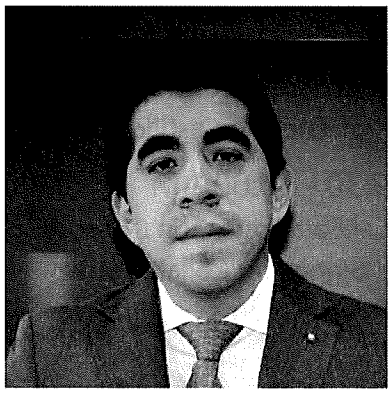
4:40 - 5:30 PM
Conferral of Diplomas

5:30 PM
Adjournment

UC San Diego

Viasat

Prof. Luciano Castillo is the Kenninger Chair Professor of Renewable Energy & Power Systems at Purdue University. His areas of research interest include turbulence, renewable energy & water and bioengineering. He has published over 100 publications, edited several books on renewable energy and co-authored several patents on energy and health care. Some of his awards include Fellow ASME, the NASA Faculty Fellowship, the Martin Luther King Faculty Award, the Robert T. Knapp Award Best Paper Award from the ASME, the Best Paper Award from the Journal of Renewable Energy, the Best Paper Award from IEEE, and the Rensselaer Faculty Award (twice). He is passionate about inclusiveness and mentoring students and young faculty, and founded and organized several summer research institutes on renewable energy and medicine.



As a senior professional with broad international experience in telecommunications, media and information technology industries, Arturo Robles has held senior management positions and worked for governments, TELCOs and research and development institutions. He has been responsible for the development of policies and regulations, techno-economical and regulatory analysis, business planning, project management, market studies and supplier selection, governmental telecommunications strategies evaluation and highly specialized digital markets policy research. His current position involves prospective analysis for supporting regulation and policy decisions. Additionally, he leads research to identify global, regional and local trends, assess opportunities and risks, and design solutions for the telecommunications industries.

Morning Presentations

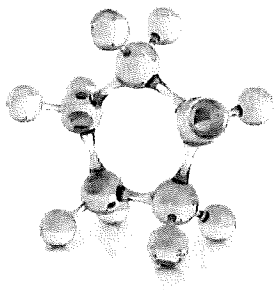
10:10-10:20 AM	Héctor López and Eliana Rodriguez Identifying privacy leakage from smartwatches and smartphones due to BLE advertisements
10:20-10:30 AM	Miguel Díaz and Gabriela Sánchez Optical probing of dense plasma focus
10:30-10:40 AM	Alexandrina García and Emilio Ocampo Stopping power of intense proton beam produced in short pulse high intensity laser matter interactions
10:40-10:50 AM	Maya Rodríguez and Lesley Rojas Red cell sickling characterization during controlled deoxygenation
10:50-11:00 AM	Frida Villavicencio and Annavictoria Orozco Fabrication and characterization of nanostructured thermal insulation materials
11:00-11:10 AM	Paola Lopez and Andrea Dorado Dynamic DNA nanostructures for targeted cancer drug delivery
11:10-11:20 AM	Diego Córdova and Marco Moriel Determination of the effects of Gdf10 misexpression on limb bone elongation
11:20-11:30 AM	Frida García and Mariah Pérez Dynamic fracture of polymers: investigating mode-II and mixed-mode fracture experimentally
11:30-11:40 AM	Diana Cervantes and Darío López Understanding how structural proteins influence cardiovascular disease and aging in fruit flies
11:40-11:50 AM	Sebastian Gonzalez and Valentina Rodriguez Synthesis of modern quantum materials
11:50 AM - 12:00 PM	Karla Guerrero Swelling and deswelling of stimuli-responsive composite hydrogels

Afternoon Presentations

2:00-2:10 PM	Hermak Banda and Karla Martinez Identifying and characterizing transcription factors involved in genetic risk of diabetes
2:10-2:20 PM	Sergio Campoy and Gabriela Gonzalez Composite structures fabrication and testing
2:20-2:30 PM	Maria Esquer and Brenda Lopez Nanoporous metal synthesis and characterization
2:30-2:40 PM	Ingrid Damaso and Daniel Gutierrez Wearable multifunctional active skins for camouflage
2:40-2:50 PM	Marlene Guzman and Sebastian Mendoza-Gomez Representing individual diversity in brain performance data
2:50-3:00 PM	Lenny Aparicio and Veronica Villarreal Development of shake table to simulate earthquakes
3:00-3:10 PM	Ana Escasan and Carlos Ramirez Synthesis and metal-catalyzed cycloaormatization reactions of dienynes
3:00-3:10 PM	Montserrat Torres and Andrea Vargas Neuronal metabolism dependent regulation of mitochondria
3:10-3:20 PM	Sofia Gandarilla and Anna Jaquez New materials for 3D printing
3:20-3:30 PM	Karim Licea and Perla Suarez Advanced materials for energy efficiency
3:30-3:40 PM	Daniela Sanchez and Milan Sandhu Characterization of dopamine receptor expression in the olfactory striatum
3:40-3:50 PM	Natalia Muñoz and Mara Sanchez Measuring the stability of electrostatic interactions in self-assembled biomaterials
3:50-4:00 PM	Maria Fernanda Cantinca and Roxana Castro Crabs aggressive behaviors during molting
4:00-4:10 PM	Nadia Castro and Maria Fernanda Dominguez The building blocks of the heart: investigating the different components
4:10-4:20 PM	Bryan Garcia and José Siono Large scale real world object reconstruction
4:20-4:30 PM	Ana Flores and Sabina Orozco Genetic studies of auxin responses in Arabidopsis
4:30-4:40 PM	Carlota Gómez and Benjamín Velasquez Fabrication of responsive polymer nanocomposites

Designing new technologies, discovering the future, establishing life-long friendships

ENGINEERING SCIENCES | BIOLOGICAL SCIENCES | PHYSICAL SCIENCES | HEALTH SCIENCES



Posters

Carolina Herrera	Electron heating and acceleration in intense light-matter interactions
Bryan Sandoval	Modeling, simulation and control of an autonomous quadrotor
Oscar Sánchez	Web portal for EcSeg: A deep learning platform for extrachromosomal DNA quantification
Diego Garcia	Design and dynamic testing of geometrically nonlinear microstructured lattice materials
Gerzain Jimenez	Nylon fiber based artificial muscle
Brandon Hernandez and Chaerin Lim	3D reconstruction of transparent shape
Andrea Dorado	Dynamic DNA nanostructures for targeted cancer drug delivery
Maria Fernanda Celaya	Characterization of medical therapy for patients undergoing PTE
Paola Castro	Injectable biomaterial for treating pelvic floor disorders
Paola Montufar	Whose sound is it anyway? Cross-language activation in more vs. less proficient bilinguals
Cesar Collins and Aneth Martinez	Substrate integrated capillary wicking structure in lithium niobate
Jesus Canizales	Exploring the effects of LiCl in the combustion synthesis of alkaline-earth hexaborides
Maria Fernanda Rodriguez	Synthesis of perovskite materials with cubic morphology
Francisco Padilla	Doping of BAS materials with rare-earth elements for prospective damage sensors
Sayuri Sagisaka	Interaction of biological components with oxide nanoparticles relevant to geochemical interfaces
Maria Fernanda Salcedo	Cofactor-mediated DNA binding by the NF-kB dimers
Jesus Frayde	Investigating functional impact of mutations in autism
Eduardo Ahumada and Eduardo Luna	Nanostructured battery electrodes via ball milling
Ismael Plascencia	Production of synthetic meat proteins in green algae
Jesús Aguilar	Cyclic axial loading of offshore helical anchors
Jesus Fragoso	Text-based & star rating labeled review transferable models for sentiment analysis in English language
Evelyn Hernandez and Jessica Tortoledo	Synthesis and characterization of catalytic cathode nanomaterials for lithium-oxygen batteries
Hugo Gomez	Reproducible bioinformatics using GenePattern Notebooks
Alejandro Hernandez Rodriguez Ian Villegas, Takumi Miyawaki	Continuum robot testbed for wireless sensing
Jesus Pio and Javier Razo	Deciphering brain activity using calcium and electrophysiological signals
Priscila Guerrero and Alejandra Martinez	Alpha-7 agonists for the nicotinic acetylcholine receptor
Aranza Martinez and Andrea Santiago	Morphological analysis of neuronal mitochondrial membranes using 3D modeling informed by electron tomography
Alejandro Hernandez Cano	Acceleration of machine learning with hyperdimensional computing
Marijose Obaya Pérez	Thermal model development for a robotic system
Minerva Padilla and Andrea Gomez	Shell calcification and mineralogy of mollusks in a changing ocean
Vanessa Gonzalez and Patsy Miranda	Droplet impact on a vibrating surface
Luis Martinez	Dynamics of line fires
Judith Baird	Genetic control of stomatal development and water loss mechanisms in plants
Hortensia Flores	The role of attention in perception
Axel Gaona and Emmanuel Rojas	Nanostructured metasurfaces for water contaminant detection
Estefania Villagrana and Lourdes Vellve	3D design of scaffolding for structured light system
Mariela Franco and Oswaldo Lara	Graphene photodetectors sensitized by lead sulfide quantum dots
Zobeida Lopez and America Mendoza	Molecular census of the synthetic cell
Lilia Vazquez	Echocardiographic assesment of angiotensin-converting enzyme inhibitors' cardioprotective effects after myocardial infarction
Genaro Soto	Design and fabrication of dissolving polymeric microneedles for drug delivery
Hyo Lim (Harper) Cho and Oscar Villanueva	Scalability testing of the new versions of XCache for the SoCal CMS deployment using GlideTester
Daniel Maldonado and Valeria Rios	First-principles analysis of defects in hybrid halide perovskites
Leticia Galicia	Synthesis and characterization of cancer cell membrane-coated nanoparticles for immune modulation

August 9, 2019